No.



9100061

THIE CONTRED STEATES OF ANTERRICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

The Curators of the University of Missouri

Takereas, there has been presented to the

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF eighteen years from the date of this grant, subject to the payment of the required fees and periodic replenishment of viable basic seed of the variety in a public repository as provided by LAW, the right to exclude others from selling the variety, or offering it for sale, or reproducing it, importing it, or exporting it, or using it in producing a hybrid or different betty therefrom, to the extent provided by the Plant Variety Protection Act.

United States seed of this variety (1) shall be soundly variety name only as

UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS BY THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

SOYBEAN

'Delsoy 4500'

In Lestimony Watercot, I have hereunto set my hand and caused the seal of the Plant Taxiety Protection Office to be affixed at the City of Washington, D.C.

this 31st day of March in the year of our Lord one thousand nine hundred and ninety-two.

Sward Madigin

Socrotary of Agriculture

Allest

Kenneth Hlvan Commissioner

Plant Variety Protection Office Agricultural Marketina Service

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Public reporting burden for this collection of information is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Agriculture, Clearance Office, OIRM, Room 404-W, Washington, D.C. 20250; and to the Office of Management and Budget, Paperwork Reduction Project (OMB #0581-0055), Washington, 20250.

FORM APPROVED: OMB 0581-0055, Expires 1/31/91

U.S. DEPARTMENT OF AGRICULTURAL MARKE	AGRICULTURE			Application is required	in order to
APPLICATION FOR PLANT VARIET (Instructions on	determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).				
NAME OF APPLICANT(S) (as it is to appear on the Certificate) The Curators of the		2. TEMPORARY DESIG	NATION OR	3. VARIETY NAME	
University of Missouri		S83-1004		Delsoy 4500	
4. ADDRESS (street and no. or R.F.D. no., city, state, and ZIP)	· · · · · · · · · · · · · · · · · · ·	5. PHONE (Include are	a code)	FOR OFFICIAL USE	E ONLY
321 University Hall				PVPO NUMBER	
Columbia, MO. 65211		314-882-3	211	9100	061
				F Date Jan. 41	1991
6. GENUS AND SPECIES NAME	7. FAMILY NAME (Botan	nical)		l Time	
Glycine max (L.) Merr.	Leguminosa	e	i		.м Р.М.
8. CROP KIND NAME (Common Name)	9.	DATÉ OF DETERMINATION	N .	F Filing and Examina	tion Fee:
Soybean		11-28-89		E 3/30.	
10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGA	NIZATION (Corporation, pa	rtnership, association, etc.)		. بناما	991
Educational Organization		•		C Certificate Fee:	
11. IF INCORPORATED, GIVE STATE OF INCORPORATION	12. D	ATE OF INCORPORATION		\$ 250,00	
Missouri				E Mar. 3	1992
13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO	SERVE IN THIS APPLICAT	ION AND RECEIVE ALL PAR	PERS		
Dr. S. C. Anand University of Missouri Delta Center Portageville, MO. 63873		PHONE (Inc	lude area code	314-379-543 <u>1</u>	
14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Fol.	low INSTRUCTIONS on reve	erse)			
 a. X Exhibit A, Origin and Breeding History of the Variety. b. X Exhibit B, Novelty Statement. 					
c. X Exhibit C, Objective Description of Variety.					
d. X Exhibit D, Additional Description of Variety.					
e. X Exhibit E, Statement of the Basis of Applicant's Ownersh	ip.				
I. X Seed Sample (2,500 viable untreated seeds). Date Seed	Sample mailed to Plant	Variety Protection Office	11-9-	90	
g. [X] Filing and Examination Fee (\$2,150) made payable to "					
15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SO Protection Act.) X YES (II "YES," answer items 16 and 17 be	L3	LY AS A CLASS OF CERTIFI NO," skip to item 18 below)	ED SEED? (See	section 83(a) of the Plant Vi	ariety
16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS NUMBER OF GENERATIONS?		· · · · · · · · · · · · · · · · · · ·	ES OF PRODUC	TION BEYOND BREEDER SE	ED?
X YES NO	X FO	UNDATION	X REGISTE	RED X C	CERTIFIED
18. DID THE APPLICANT(S) PREVIOUSLY FILE FOR PROTECTION OF THE VA	RIETY IN THE U.S.?				
YES (If "YES," through Plant Variety Protection Act NO		ate:)			
19. HAS THE VARIETY BEEN RELEASED, USED, OFFERED FOR SALE, OR M	IARKETED IN THE U.S. OR	OTHER COUNTRIES?			
[X] YES (If "YES," give names of countries and dates) $[X]$ $[X]$.S. 5-1-90				
∐ NO	٠				
20. The applicant(s) declare(s) that a viable sample of basic se request in accordance with such regulations as may be appl	eds of this variety wil	ll be furnished with th	e application	and will be replenish	ed upon
The undersigned applicant(s) is (are) the owner(s) of this	sexually reproduced	novel plant variety,	and believe	s) that the variety is cleant Variety Protection	distinct,
uniform, and stable as required in section 41, and is entitle APPROVED Applicant(s) is (are) informed that false representation her	e in can jeopardize pro	tection and result in pe	n 42 or the F. enalties.	and variety redection	TACL.
SIGNATURE OF APPLICANT (Owner(s)) LEGAL FORM	A CAPACITY OR	TITLE	·····	DATE	
- KMM-12/3)	50				7
SIGNATURE OF APPLICANT [Owner(s)] Business San	des CAPACITY OR	elyn K. Jones		DATE	
129/90	Jacque	or, Business	Services	,	,
FORM CS-0470 (5-88) Edition of FORM LS-470, 3-86 is-obsolete	an conference and a second				**

EXHIBIT A

Origin and Breeding History of the Variety

Delsoy 4500 was selected from the cross 'Cumberland' x 'Forrest'. Early generation selection and testing were done at the Delta Center of the University of Missouri at Portageville, Mo. Individual F₃ plants were evaluated in the greenhouse for reaction to SCN Race 3. Remanent seed from resistant and segregating plants was planted for field evaluation in the cyst nematode nursery at the Rhodes Farm, near Clarkton, MO. Individual plants from F4 lines were again screened to select homozygous resistant plants. Progenies were grown at the Lee Farm, near Portageville, MO. Seed from individual F₆ progeny were harvested for testing and seed increase. Delsoy 4500 was evaluated under the designation \$83-1004 in the Uniform regional Soybean Tests IV North, and Regional SCN Tests IV from 1987 through 1989.

By and large, Delsoy 4500 has maintained its uniformity and stability by reproduction through seed except slight variability for hila color which is stated in Exhibit D.

EXHIBIT B

Novelty Statement

'Delsoy 4500' most closely resembles 'Corsoy' in plant type however, Delsoy 4500 is resistant to Race 3 of soybean cyst nematode (Heterodera glycines Ichinohe) whereas, Corsoy is susceptible. Delsoy 4500 has white flowers, on the other hand Corsoy has purple flowers. In maturity, Delsoy 4500 is very similar to Douglas, but Delsoy 4500 has grey pubescence, whereas Douglas has tawny pubescence.

PLANT VARIETY PROTECTION OFFICE BELTSVILLE, MARYLAND 20705

OBJECTIVE DESCRIPTION OF VARIETY SOYBEAN (Glycine max L.)

321 University Hall Columbia, M0. 65211 Choose the appropriate response which characterizes the variety in the features described below. When the number of signific in your answer is fewer than the number of boxes provided, place a zero in the first box when number is 9 or less (e.g., □ Starred characters ★ are considered fundamental to an adequate soybean variety description. Other characters should be described when information is available. 1. SEED SHAPE: 3	S83-1004 Delsoy 4500 FOR OFFICIAL USE ONLY PVFO NUMBER CIOOOG ponse which characterizes the variety in the features described below. When the number of significant digits in the number of boxes provided, place a zero in the first box when number is or less (e.g., O) nsidered fundamental to an adequate soybean variety description. Other characters should be described below. T, and T, wratios = < 1.2) 2 - Spherical Flattened (L/W ratio > 1.2; L/T ratio = < 1.2) 4 - Elongate Flattened (L/W ratio > 1.2; L/T ratio = < 1.2) ture Seed) 2 - Green						
Delay 4300 ADDRESS (Exert and No., or R.F.O. No., Crey, State, and Zip Code) S83-1014 Delay 4300 FOR DEPECIAL USE ONLY	Delsoy 4500 FOR OFFICIAL USE ONLY POPO NUMBER C O O O ponse which characterizes the variety in the features described below. When the number of significant digits in the number of boxes provided, place a zero in the first box when number is 9 or less (e.g., O 9). misidered fundamental to an adequate soybean variety description. Other characters should be described let. T, and T/M ratios = < 1.2) 2 = Spherical Flattened (L/M ratio > 1.2; L/T ratio = < 1.2) 4 = Elongate Flattened (L/M ratio > 1.2; T/M > 1.2) Ture Seed) 2 = Green		• - •		TEMPORARY DESIGNATION	VARIETY NAME	
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3. SEED COAT LUSTER: (Mature Hand Shelled Seed) 2 1 = Dull ('Corsoy 79'; 'Braxton') 2 = Shiny ('Nebsoy'; 'Gasoy 17') 4. SEED SIZE: (Mature Seed) 1 1 Grams per 100 seeds 5. HILUM COLOR: (Mature Seed) 1 1 = Buff 2 = Yellow 3 = Brown 4 = Gray 5 = Imperfect Black 6 = Black 7 = Other (Special Seed) 1 1 = Yellow 2 = Green 7. SEED PROTEIN PEROXIDASE ACTIVITY: 2 1 = Low 2 = High 8. SEED PROTEIN ELECTROPHORETIC BAND: 2 1 = Type A (SP1 ⁸) 2 = Type B (SP1 ^b) 9. HYPOCOTYL COLOR: 1 1 = Green only ('Evans'; 'Davis') 2 = Green with bronze band below cotyledons ('Woodworth'; 'Tracy') 3 = Light Purple below cotyledons ('Beeson'; 'Pickett 71')	each sture Hand Shelled Seed) ; 'Braxton')	[T]		•			1
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4. SEED SIZE: (Mature Seed) 1 1 Grams per 100 seeds 5. HILUM COLOR: (Mature Seed) 1 1 = Buff 2 = Yellow 3 = Brown 4 = Gray 5 = Imperfect Black 6 = Black 7 = Other (Speed) 1 1 = Yellow 2 = Green 7. SEED PROTEIN PEROXIDASE ACTIVITY: 2 1 = Low 2 = High 8. SEED PROTEIN ELECTROPHORETIC BAND: 2 1 = Type A (SP18) 2 = Type B (SP15) 9. HYPOCOTYL COLOR: 1 1 = Green only ('Evans'; 'Davis') 2 = Green with bronze band below cotyledons ('Woodworth'; 'Tracy') 3 = Light Purple below cotyledons ('Beeson'; 'Pickett 71')	eed) Yellow 3 = Brown 4 = Gray 5 = Imperfect Black 6 = Black 7 = Other (Specify) sture Seed) Green ASE ACTIVITY: High PHORETIC BAND: 2 = Type B (SP1 ^b) y cotyledons ('Beeson'; 'Pickett 71')	2 1 = Du	i ('Corsoy 79'; 'Braxton	') 2 = Shiny ('Nebs	ov': 'Gasov 17')	•	
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7. SEED PROTEIN PEROXIDASE ACTIVITY: 2 1 = Low 2 = High 8. SEED PROTEIN ELECTROPHORETIC BAND: 2 1 = Type A (SP1 ⁸) 2 = Type B (SP1 ^b) 9. HYPOCOTYL COLOR: 1 1 = Green only ('Evans'; 'Davis') 2 = Green with bronze band below cotyledons ('Woodworth'; 'Tracy') 3 = Light Purple below cotyledons ('Beeson'; 'Pickett 71')	ASE ACTIVITY: digh PHORETIC BAND: 2 = Type 8 (SP1 ^b) s'; 'Davis') 2 = Green with bronze band below cotyledons ('Woodworth'; 'Tracy') or cotyledons ('Beeson'; 'Pickett 71')	1 1= Val	0w 2 = G	-			
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8. SEED PROTEIN ELECTROPHORETIC BAND: 2 1 = Type A (SP1 ^a) 2 = Type B (SP1 ^b) 9. HYPOCOTYL COLOR: 1 = Green only ('Evans'; 'Davis') 2 = Green with bronze band below cotyledons ('Woodworth'; 'Tracy') 3 = Light Purple below cotyledons ('Beeson'; 'Pickett 71')	PHORETIC BAND: 2 = Type 8 (SP1 ^b) s'; 'Davis') 2 = Green with bronze band below cotyledons ('Woodworth'; 'Tracy') or cotyledons ('Beeson'; 'Pickett 71')	7. 3CED FROTE	M FEROXIDASE ACTI	VIIT:			
2 = Type B (SP1 ^b) 9. HYPOCOTYL COLOR: 1 = Green only ('Evans'; 'Davis') 2 = Green with bronze band below cotyledons ('Woodworth'; 'Tracy') 3 = Light Purple below cotyledons ('Beeson'; 'Pickett 71')	2 = Type B (SP1 ^b) s'; 'Davis') 2 = Green with bronze band below cotyledons ('Woodworth'; 'Tracy') cotyledons ('Beeson'; 'Pickett 71')	2 1 = Lov	2 = High	•			
2 = Type B (SP1 ^b) 9. HYPOCOTYL COLOR: 1 = Green only ('Evans'; 'Davis') 2 = Green with bronze band below cotyledons ('Woodworth'; 'Tracy') 3 = Light Purple below cotyledons ('Beeson'; 'Pickett 71')	2 = Type B (SP1 ^b) s'; 'Davis') 2 = Green with bronze band below cotyledons ('Woodworth'; 'Tracy') cotyledons ('Beeson'; 'Pickett 71')						
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9. HYPOCOTYL COLOR: 1 = Green only ('Evans'; 'Davis') 2 = Green with bronze band below cotyledons ('Woodworth'; 'Tracy') 3 = Light Purple below cotyledons ('Beeson'; 'Pickett 71')	s'; 'Davis') 2 = Green with bronze band below cotyledons ('Woodworth'; 'Tracy') y cotyledons ('Beeson'; 'Pickett 71')	r					
1 = Green only ('Evans'; 'Davis') 2 = Green with bronze band below cotyledons ('Woodworth'; 'Tracy') 3 = Light Purple below cotyledons ('Beeson'; 'Pickett 71')	s'; 'Davis') 2 = Green with bronze band below cotyledons ('Woodworth'; 'Tracy') v cotyledons ('Beeson'; 'Pickett 71')	2 1 = Typ	A (SP1ª)	2 = Type 8 (SP1 ^b)			
1 = Green only ('Evans'; 'Davis') 2 = Green with bronze band below cotyledons ('Woodworth'; 'Tracy') 3 = Light Purple below cotyledons ('Beeson'; 'Pickett 71')	cotyledons ('Beeson'; 'Pickett 71')						
3 = Light Purple below cotyledons ('Beeson'; 'Pickett 71')	cotyledons ('Beeson'; 'Pickett 71')	9. HYPOCOTYL	COLOR:				
3 = Light Purple below cotyledons ('Beeson'; 'Pickett 71')	cotyledons ('Beeson'; 'Pickett 71')	1 1=6	n only //Eurosis/Davids/1	2 - 0		عد مسرور و و	
4 = Dark Purple extending to unifoliate leaves ('Hodgson'; 'Coker Hampton 266A')	ding to unifoliate leaves ('Hodgson'; 'Coker Hampton 266A')				pronze band below cotyledons ('V	Yoodworth'; 'Tracy')	
		4 = Dari	Purple extending to un	ifoliate leaves ('Hodgson':	'Coker Hampton 266A')		
					· ·	····	
O. LEAFLET SHAPE:		O. LEAFLET SHA	PE:				
3 1-1	2 = Oval 3 = Ovate 4 = Other (Specify)	3 1 = Land	eolate 2 = 0)val 3 = Ouese	A m Other (Section)		
: [] = Lanceolate	- Other Japachy)			2 - Ovaca	Other (Specity)		,,
3 1 = Lanceolate 2 = Oval 3 = Ovate 4 = Other (Specify)							

FORM LMGS-470-57 (6-83)

(Edition of 2-82 is obsolete.)

11. LEAFLET SIZE						
2 1 = Sm	all ('Amsoy 71'; 'A5312') ge ('Crawford'; 'Tracy')	2 = Medi	um ('Corsoy 79'; 'G	asov 17')		
						orionia. Series series
12. LEAF COLOR:						
	ht Green ('Weber'; 'York') k Green ('Gnome'; 'Tracy')	2 = Mediu	um Green (*Corsoy 7	79'; 'Braxton')		
<u> </u>				<u> </u>	· · · · · · · · · · · · · · · · · · ·	
13. FLOWER COLO		3 = White wit	th purple throat			
14. POD COLOR:	2 ≐ Brown	3 = Black	. 13			
15. PLANT PUBESO	ENCE COLOR:		,		 	r e é
1 = Gra	y 2 = Brown (Tawn)	<i>i</i>) .	i er		• .	
16. PLANT TYPES:	· · · · · · · · · · · · · · · · · · ·					A STATE OF THE STA
1 = Slen 3 = Busi	der ('Essex'; 'Amsoy 71') ny ('Gnome'; 'Govan')	2 ≈ Interm	ediate ('Amcor'; 'Bi	raxton')		en e
17. PLANT HABIT:				-	<u></u>	////
	rminate ('Gnome'; 'Braxton') terminate ('Nebsoy'; 'Improved		Determinate ('Will')			
18. MATURITY GRO	UP:					
0 7 1 = 000 9 = VI	2 = 00		5 = II 6 = 13 = X	III 7 = IV	7 8 = V	eerski
19. DISEASE REACT	ION: (Enter 0 = Not Tested; 1	= Susceptible: 2 = Res	sistant)			- 1995 (基 依)
BACTERIAL DI						
* 0 Bacterial	oeaded.	•				And Andrews
- Davierna	Pustule (Xanthomonas phaseo) Blight (Pseudomonas glycinea)	•				en de la company
★ 0 Wildfire	Pseudomonas tabaci)	·		12 grade 1 and 1 a		water of the
FUNGAL DISEAS					•	
_ 🗂	ot (Septoria glycines)					· · · · · · · · · · · · · · · · · · ·
Frogeye L	eaf Spot (Cercospora sojina)				· ·	•
★ 0 Race 1	0 Race 2 0	Race 3 0 R	ace 4 0 F	Race 5	Other (Specify)	
		•				2 - 4 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 -
U larget Sp	ot (Corynespora cassiicola)					
	ot (Corynespora cassiicola) Idew (Peronospora trifoliorum	var, manshurica)				. 1911 1911 - 1911
0 Downy Mi		var. <i>manshurica)</i>				gert og det er
0 Downy Mi	ldew (Peranospora trifoliorum					

FORM LMGS-470-57 (6-83)

			·		·			
19.	DISEA	SE REACTION	I: {Enter 0 = Not T	ested; 1 = Susceptible;	2 = Resistant)	(Continued)		
		IGAL DISEASE	S: (Continued)					
*	2	Pod and Stem	n Blight <i>(Diaporthe</i>	phaseolorum var; sojae,)			
	2	Purple Seed S	Stain <i>(Cercospora ki</i>	ikuchii)				
	0	Rhizoctonia I	Root Rot (Rhizocto	onia solani)				
		Phytophthora	a Rot (Phytophthor	a megasperma var. soja	e)			
*	1	Race 1	0 Race 2	0 Race 3	0 Race 4	0 Race	O Race 6	1 Race 7
	0	Race 8	0 Race 9	0 Other (Specify	/	<u> </u>	<u> </u>	The second secon
	VIR	AL DISEASES:			1.			
	0	Bud Blight (T	obacco Ringspot V	irus)				
	0	Yellow Mosai	ic (Bean Yellow Mo	saic Virus)				
*	0	Cowpea Mosa	nic (Cowpea Chloro	tic Virus)				
	0	Pod Mottle (E	Bean Pod Mottle Vi	rus)				
*	0	Seed Mottle (Soybean Mosaic Vi	rus)				
	NEM	ATODE DISEA	ASES:					
		Soybean Cyst	t Nematode (Hetero	dera glycines)				
*	0	Race 1	0 Race 2	2 Race 3	1 Race 4	0 Other	(Specify)	
	0	Lance Nemate	ode (Hoptolaimus C	Colombus)				
*	0	Southern Roo	ot Knot Nematode	Meloidogyne incognita	J			
*	0	Northern Roc	ot Knot Nematode	(Meloidogyne Hapla)		•		
	0	Peanut Root I	Knot Nematode (M	eloidogyne arenaria)				
	0	Reniform Ner	natode (Rotylench	ulus reniformis)				·
**	0	OTHER DISE	ASE NOT ON FOR	RM (Specify):				
20.	PHYSIC	DLOGICAL RE	SPONSES: (Enter	0 = Not Tested; 1 = Sus	sceptible; 2 = 1	Resistant)		
*	0	Iron Chlorosis	on Calcareous Soi	i			w ₂ to the second	and the second s
	0	Other (Specify	y)				<u>.</u>	
21.	INSECT	REACTION:	(Enter 0 = Not Tes	ted; 1 = Susceptible; 2	= Resistant)			,
	0		Beetle (Epilachna					
			opper (Empoasca f	-				
22				DSELY RESEMBLES T				
		ACTER	1	OF VARIETY		ARACTER	NAM	E OF VARIETY
F	lant Sha		Corsey			Coat Luster	Cumberlan	
	eaf Sha	·	Williams			Size	Davis	
	eaf Col	or	Cumberla		Seed	Shape	Davis	
L	eaf Size		William:	3	Seed	ling Pigmentation	Davis	
			l			•	1	

23. GIVE DATA FOR SUBMITTED AND SIMILAR STANDARD VARIETY: Paired Comparison Data

VARIETY	NO. OF DAYS MATURITY	PLANT LODGING SCORE	CM PLANT HEIGHT	LEAFLET SIZE		SEED CONTENT		SEED SIZE	NO. SEEDS/
				CM Width	CM Length	% Protein	% Oil	SEEDS	POD
Submitted	121	1.7	105	7.0	12.5	39.8	21.0	11.2	3.2
Douglas Name of Similar Variety	122	1.4	95	8.5	12.9	40.9	20.9	14.7	3.2

PUBLICATIONS USEFUL AS REFERENCE AIDS FOR COMPLETING THIS FORM:

- 1. Caldwell, B.E., ed. 1973. Soybeans: Improvement, Production, and Uses. Amer. Soc. Agron. Monograph No. 16.
- 2. Buttery, B.R. and R.I. Buzzell. 1968. Peroxidase activity in seeds of soybean varieties. Crop Sci., 8: 722-725.
- 3. Hymowitz, T. 1973. Electrophoretic analysis of SBTI-A2 in the USDA soybean germplasm collection. Crop Sci., 13: 420-421.
- 4. Payne, R.C. and L.F. Morris. 1976. Differentiation of soybean cultivars by seedling pigmentation patterns. J. Seed Technol. 1: 1-19.

EXHIBIT D

Additional Description of Variety

Delsoy 4500 seeds have buff hila, however, in few seed samples tested, there were up to 0.1% (by weight) seeds with black or imperfect black hila. Delsoy 4500 is a mid Maturity Group IV soybean similar to Douglas, but is about 10 cm. shorter in plant height.

EXHIBIT E

Statement of the Basis of Applicant's Ownership

The variety was developed by the funds and facilities primarily provided by the University of Missouri and the work was done on the University of Missouri Delta Research Station. The Missouri Soybean Merchandising Council provided some funds to the said university which were also utilized in the development of this variety.